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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,417	09/23/2003	Thomas K. Sciurba	H10188/DPS	2029

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EXAMINER	
MORRISON, THOMAS A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,417	SCIURBA ET AL.	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *5-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said **predetermined** distance" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 1, it is unclear if the recited "a predetermined number" in line 7 is the same or different from the previously recited "a predetermined number" in line 4.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, as best understood, is rejected under 35 U.S.C. 102(b) as anticipated by Japanese Patent Publication No. 60-188245.

Regarding claim 1, Figs. 1-5 and the English Abstract disclose a method for controlling sheet stack advancing, comprising:

determining a distance of a platform (11) relative to a feedhead (12) corresponding to a predetermined number of sheets that is greater then zero to be left in a sheet supply (10), the sheets resting upon the platform (11);

switching to another sheet supply (20) when the platform (11) is the distance from the feedhead (12) thereby leaving a predetermined number of sheets in the sheet supply (10) using a controller (CPU in Fig. 2) in combination with stored information (i.e., programs in the CPU), the predetermined distance remaining unchanged regardless of a sheet thickness. See, e.g., Fig. 1 and the English Abstract.

3. Claims 1 and 4, as best understood, are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,028,041 (Kobayashi) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kobayashi in view of U.S. Patent No. 4,265,440 (Shibazaki et al.).

Regarding claim 1, Fig. 7 of Kobayashi discloses a method for controlling sheet stack advancing, comprising:

determining a distance of a platform (including the spring-loaded section and the section near reference numeral 11-1) relative to a feedhead (12-1) corresponding to a predetermined number of sheets that is greater then zero to be left in a sheet supply (10-1), the sheets resting upon the platform;

switching to another sheet supply (10-2) when the platform (e.g., the spring-loaded section near reference number 11-1) is the distance from the feedhead (12-1) thereby leaving a predetermined number of sheets in the sheet supply (10-1) using a controller (Figs. 8 and 10) in combination with stored information (e.g., information in the

logic circuits of Fig. 8), the predetermined distance remaining unchanged regardless of a sheet thickness. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Kobayashi apparatus with a controller having a microcomputer with stored information (i.e., computer programs) to control the switching to another sheet supply, because a microcomputer allows complicated control such as emptiness detection to be readily achieved without having to make the sheet stack advancing apparatus bulky in size, and without the need of a complicated circuit, as taught by Shibazaki et al. See e.g., Figs. 3-5, column 10, lines 59-68 and column 11, lines 38-48 of the Shibazaki et al. patent.

Regarding claim 4, column 5, line 28 to column 6, line10 of the Kobayashi patent discloses storing the distance in memory. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the Kobayashi device using a microcomputer and store the information about the height in the microcomputer, because a microcomputer allows complicated control as emptiness detection to be readily achieved without having to make the sheet stack advancing apparatus bulky in size, and without the need of a complicated circuit, as taught by Shibazaki et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3 and 4, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,472,183 (Kubo) in view of U.S. Patent No. 4,265,440 (Shibazaki et al.), and further in view of U.S. Patent No. 5,028,041 (Kobayashi).

Regarding claim 1, Figs. 1-7 of the Kubo patent disclose a method for controlling sheet stack advancing, comprising:

determining a distance of a platform (116a) relative to a feedhead (118a) corresponding to a predetermined number of sheets to be left in a sheet supply (114a), the sheets resting upon the platform (116a);

switching to another sheet supply (114b) when the platform (116a) is the distance from the feedhead (118a) thereby leaving a predetermined number of sheets in the sheet supply (114a) using a controller (140), the predetermined distance remaining unchanged regardless of a sheet thickness. The Kubo patent discloses most of the limitations of claim 1, but does not specifically disclose that the distance of the platform to the feedhead corresponds to a predetermined number of sheets that is greater than zero to be left in the sheet tray, and Kubo does not explicitly disclose a control in combination with stored information.

The Shibazaki et al. patent discloses that it is well known to use a controller including a microcomputer with stored information (i.e., computer programs) for the purpose of controlling the switching from one sheet supply to another sheet supply, because a microcomputer allows complicated control such as emptiness detection to be readily achieved without having to make the sheet stack advancing apparatus bulky in

size, and without the need of a complicated circuit, as taught by Shibazaki et al. See e.g., Figs. 3-5, column 10, lines 59-68 and column 11, lines 38-48 of the Shibazaki et al. patent. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Kubo apparatus with a controller including a microcomputer with stored information (i.e., computer programs) to control the switching to another sheet supply, because a microcomputer allows complicated control such as emptiness detection to be readily achieved without having to make the sheet stack advancing apparatus bulky in size, and without the need of a complicated circuit, as taught by Shibazaki et al. See e.g., Figs. 3-5, column 10, lines 59-68 and column 11, lines 38-48 of the Shibazaki et al. patent

The Kobayashi patent discloses that it is well known to control sheet stack advancing such that there is switching from a first sheet supply (10-1) to another sheet supply (10-2) with some sheets remaining (i.e., greater than zero) in the first sheet supply (10-1), for the purpose of preventing jamming and double feeding associated with feeding all sheets out of the first sheet supply before switching to another sheet supply. See, e.g., Figs. 7-8, the Abstract, and column 1, lines 25-66 of Kobayashi. It would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the apparatus of Kubo in view of Shibazaki et al. so that it switches from a first sheet supply to another sheet supply with some sheets remaining in the first sheet supply, for the purpose of preventing jamming and double feeding, as taught by Kobayashi.

Regarding claim 3, as best understood, the Kubo patent discloses determining the distance (i.e., PU) of a platform (116a) relative to a feedhead (118a) corresponding to a predetermined number of sheets to be left in a sheet supply (114a) prior to the platform being at this distance relative to the feedhead (118a). See e.g., column 4, lines 39-48.

Regarding claim 4, as best understood, the distance (PU) is used in the control of lifting the platform (116a) to the proper height. See e.g., column 4, lines 39-48 of Kubo. As mentioned above with regard to claim 1, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Kubo apparatus with a controller including a microcomputer with stored information (i.e., computer programs) to control the switching to another sheet supply. Thus, it would also be obvious to store such distance information on the microcomputer.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,472,183 (Kubo) in view of U.S. Patent No. 4,265,440 (Shibazaki et al.) and U.S. Patent No. 5,028,041 (Kobayashi), and further in view of U.S. Patent No. 4,535,463 (Ito et al.). The combination of Kubo, Shibazaki et al. and Kobayashi discloses most of the limitations of claim 2, but does not specifically disclose driving the platform with a stepper motor and expressing the distance as stepper motor counts.

The Ito et al. patent discloses that it is well known to provide a sheet feeding device, in which a platform (41) is operated by a motor (M3) and the position of the platform (41) is determined according to a number of pulses (i.e., motor counts) generated by running the motor (M3), for the purpose of accurately determining how

many sheets remain on the platform at a certain height of the platform (41). See Figs. 2-12 of Ito et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Kubo apparatus with a motor (M3) and to determine the position of the platform of Kubo according to pulses generated by the motor of Kubo, for the purpose of accurately determining how many sheets remain on the platform at a certain height of the platform, as taught by Ito et al. See e.g., Figs. 2-12 and column 7, lines 10-65 of Ito et al. Kubo, Shibazaki et al. and Kobayashi, as modified by Ito et al., meets the limitations of the claim except that it discloses a motor rather than specifically disclosing a stepper motor to raise the platform. However, these two elements were art recognized equivalents at the time of the invention in those platform raising applications where it is immaterial whether the stepper motor or a motor is used for raising the platform. Therefore, one of ordinary skill would have found it obvious to substitute a stepper motor for the motor of Ito to facilitate raising the platform.

Response to Arguments

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,156,170 (Strunc) discloses that it is well known to use a stepper motor for a wide variety of applications and stepper motors are flexible, in that they can be programmed to operated with vastly different velocity profiles.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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